Appendix I3

Avian Survey

Technical Report – Part 1 of 4

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Blanton & Associates, Inc.
ENVIRONMENTAL CONSULTING • PLANNING • PROJECT MANAGEMENT

December 8, 2009

Ms. Allison Arnold
U.S. Fish & Wildlife Service
Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, Texas 78758-4455

Re: Habitat Assessments for the Golden-cheeked Warbler and Black-capped Vireo and Presence-Absence Surveys for the Golden-cheeked Warbler within the Study Area of the Alamo Regional Mobility Authority's Proposed Improvements to US 281 from Borgfeld Road to Loop 1604 in Bexar County, Texas

Dear Ms. Arnold:

This correspondence provides the results of investigations to assess the potential impacts of the proposed improvements to US 281 on the federally endangered golden-cheeked warbler (*Dendroica chrysoparia*) (GCWA) and black-capped vireo (*Vireo atricapilla*) (BCVI). The investigation, conducted by Blanton & Associates, Inc. (B&A) during the spring of 2009, included habitat assessments for the GCWA and BCVI within and adjacent to the project corridor and the first year of presence/absence surveys for the GCWA. The proposed project extends along US 281 from Borgfeld Road to Loop 1604 in Bexar County, Texas (**Figure 1**). The first portion of this letter report provides a description of the proposed roadway improvements, a summary of the coordination history with the U.S. Fish and Wildlife Service (USFWS), a description of the methods employed during the habitat assessments and presence-absence survey, followed by results and conclusions of the study.

Project Description

In the project area the existing US 281 facility is a four to six lane divided arterial with partial access control. The San Antonio-Bexar County Metropolitan Planning Organization Mobility 2035 Plan currently lists US 281 within the project limits as a six-lane tolled facility. The Alamo Regional Mobility Authority (ARMA) is currently developing an Environmental Impact Statement (EIS) to study the potential impacts of the proposed project on the social and natural environments of the project area. More detailed design information will also result from this study.

USFWS Coordination/Consultation

Initial coordination with USFWS included a meeting on March 24, 2009, at the ARMA North Main office. The attendees included representatives from ARMA (Lisa Adelman and Patrick Irwin), B&A (Kim Johnson and Mark Kainer), and Alison Arnold of the Austin Ecological Services Office. The discussion included appropriate methods for the habitat assessment and presence-absence surveys; potential access issues; road

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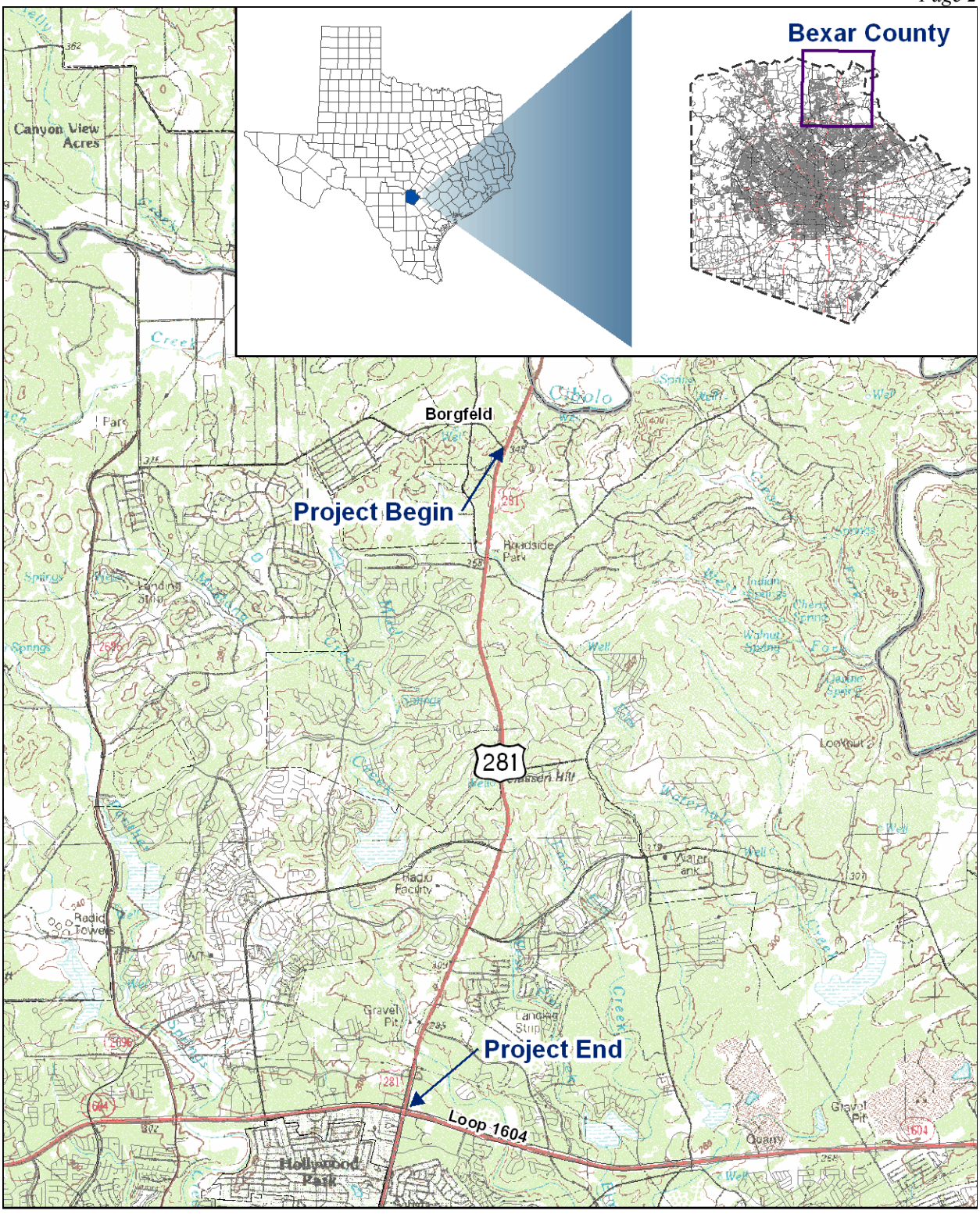


Base Map: 30' USGS topographic quadrangle, New Braunfels, Texas (1992) http://www.tnris.state.tx.us/datadownload.jsp

Figure 1
Project Location
US 281 From Borgfeld Road to Loop 1604
Bexar County, TX

noise, traffic and other constraints, and the need to conduct a site visit with representatives from ARMA, B&A, Hicks & Company (firm under contract to manage the biological resources portion of the EIS for this project) and the USFWS.

The field meeting was conducted April 10, 2009. The attendees included Alison Arnold of the USFWS, Lisa Adelman and Patrick Irwin of the ARMA, Rachel Barlow of Hicks & Company, and Mark Kainer and Kim Johnson of B&A. The purpose of the field meeting was to share information collected during the habitat assessment, discuss access and traffic noise challenges, evaluate current development activity in the project area, and analyze selected blocks of potential habitat. A few of the habitat blocks identified during the habitat assessment that was conducted from the existing ROW only were discussed because they may be considered unsuitable based on newer information collected after accessing private properties, following land use changes, and/or after re-evaluating the structure of the habitat or connectivity to larger habitat blocks. Alison Arnold suggested B&A conduct presence/absence surveys the first season for all habitat blocks identified during the habitat assessment phase due to time constraints and provide information to the USFWS regarding those habitat blocks that may not be suitable and are recommended to be dismissed from further investigations after the first year of surveys. The attendees of the field meeting were in general concurrence on the potential habitat identified in the project area, the methods for conducting presence-absence surveys considering the challenging circumstances in the project area, and the strategy to address blocks of potentially unsuitable habitat.

Methods

Habitat Assessment Methods

The habitat assessment consisted of a review of pertinent information regarding the potential occurrence of the GCWA and BCVI in and surrounding the project area, followed by an analysis of recent aerial photography of the study area. The Texas Natural Diversity Database (TXNDD) was also queried to determine if known occurrences of these rare birds are documented in the vicinity of the project area. The initial study area for the habitat assessment was identified as the existing ROW and 1000 feet on either side of the existing ROW. This study area was evaluated using 2008 National Agricultural Imagery Program aerial photography for potential undeveloped lands with woody vegetation that could meet the characteristics of suitable habitat for one or both of these endangered species. The 1000 foot buffer zone was used primarily to determine the potential connectivity of undeveloped lands surrounding the project area to larger tracts of potential suitable habitat for the GCWA and/or BCVI. Areas that were identified as residential or commercial developments and open fields with little or no woody vegetation within the initial study area were dismissed as potential habitat for the GCWA and BCVI.

The study area was reduced to 500 feet on either side of the existing ROW after a revised evaluation of the potential extent of new ROW needed for the project was identified. A field visit was then conducted by qualified biologists to evaluate the composition and structure of all undeveloped tracts with woody vegetation within the revised study area to determine if suitable habitat for the GCWA or BCVI exists within or adjacent to the study area. This effort was conducted from the existing ROWs of US 281 and intersecting roads of US 281 within the study area. Each of the undeveloped tracts with woody vegetation was classified as non-

habitat, potential GCWA habitat, potential BCVI habitat, or potential GCWA and BCVI habitat. Some of the undeveloped tracts were dismissed as potential GCWA habitat because the Ashe juniper (*Juniperus ashei*) was either absent, recently cleared, or in a state of regrowth. Other patches were dismissed as potential habitat because the vegetation present did not meet the requirements of suitable habitat for either species or because they were highly fragmented by urban encroachment. To assist with the management of the potential habitat identified in the project area potential habitat was broken into habitat blocks based on biological connectivity to the surrounding landscape. Each block was characterized in terms of dominant vegetation, structure, maturity of the Ashe juniper, potential connectivity to larger expanses of oak-Ashe juniper woodlands, slope and aspect, and potential access for presence-absence surveys.

The final step in the habitat assessment investigation included an evaluation of the relative quality and each habitat block to assess the likelihood of occurrence of these rare birds. This task included further evaluations of the suitability of the habitats in and around each block while conducting the presence-absence surveys. The evaluation included accessing many private properties and further evaluating the size, level of disturbances of each block and potential connectivity to additional larger expanses of potential habitat. Based on this information, a recommendation to dismiss some of the blocks from further consideration following one year of presence-absence surveys is presented below under "Results."

Background Research

The study included a review of the most recent and pertinent information available for the GCWA and BCVI. Various sources of information and maps were utilized to determine the potential occurrence of the species in the study area. A summary of pertinent background information on the GCWA and BCVI is provided in **Attachment 3**. A search of the TXNDD (TXNDD 2009) within 15 miles of the study area indicated there are no documented occurrences of the BCVI within 10 miles of the study area. The closest documented occurrence of the BCVI is approximately 12 miles west of the project area on the west side of IH 10. The closest GCWA occurrence is located approximately 1.5 miles east of the project area just east of Bulverde Road. Numerous GCWA occurrences are documented on Camp Bullis, the closest being approximately 4 miles west of the study area.

GCWA Habitat Assessment Results

Thirteen blocks of potential GCWA habitat were identified in the US 281 study area. These blocks are shown relative to the study area on topographic and aerial-based maps in **Figures 2** and **3.1** through **3.11**, respectively (**Attachment 1**). No potential habitat for the GCWA was identified within the existing ROW, but suitable habitat was identified immediately adjacent to the existing ROW and within the study area. The majority of the suitable GCWA habitat was identified in the northern portion of the project corridor in the steep hills on the south side of the Cibolo Creek watershed. In general, the potential habitat identified in the study area varies depending largely on current and past land uses. The dominant woody species of suitable patches include plateau live oak (*Quercus fusiformis*) and Ashe juniper, with much lesser amounts of Texas oak (*Q. buckleyi*), sugar hackberry (*Celtis laevigata*), Texas ash (*Fraxinus texensis*), cedar elm (*Ulmus crassifolia*), escarpment black cherry (*Prunus serotina* var. *eximius*), and Texas walnut (*Juglans microcarpa* var. *microcarpa*). The understory of these woodland patches and the edges of openings are generally well-developed with Ashe juniper limbs, vines, and various shrubs, including Texas persimmon (*Diospyros*

texana), skunkbush sumac (*Rhus aromatica*), agarito (*Berberis trifoliata*), mountain laurel (*Sophora secundiflora*), prickly pear (*Opuntia* spp.), flameleaf sumac (*Rhus copallinum*), elbow bush (*Foretiera pubescens*), greenbrier (*Smilax bona-nox*), and grape (*Vitis* spp.). The ages of the Ashe junipers within these habitat blocks range from relatively young (for suitable GCWA habitat) to mature. The average aerial coverage of these blocks ranges from approximately 50 to 90 percent and the average height was estimated to be 25 feet. The majority of the project is situated on Lower Cretaceous Edwards Limestone, undivided. The southern end of the project is mapped as the Glen Rose Formation.[1]

Most habitat blocks within the study area consist of multiple parcels of private land, but some consist of only one parcel. The suitable habitat blocks within the study area range in size from 2.5 acres to 48.4 acres. A description of each habitat block is provided in **Attachment 4**.

After accessing some private properties and further evaluating the size, level of disturbances of each block and potential connectivity to additional larger expanses of potential habitat, three of the blocks are recommended to be dismissed from further consideration. These include Blocks 4, 10, and 11. Blocks 4 and 10 are recommended to be dismissed from further consideration after accessing the properties and/or re-evaluating the quality of the habitat based on surrounding residential development in the case of Block 4 and commercial development surrounding Block 10. Block 11 is recommended to be dismissed from further consideration because all of the Ashe juniper trees have recently been removed within and adjacent to the study area.

BCVI Habitat Assessment Results

No potential BCVI habitat was identified in the study area. There are fencerows and woodland edges that have well-developed structure in the meter above ground, but no patches of this type of vegetation occur in the study area.

GCWA Presence-Absence Survey Methods

Following the most recent USFWS survey guidelines entitled *USFWS Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Golden-cheeked Warblers*, a presence/absence survey for the GCWA was conducted within and/or adjacent to the 13 habitat blocks shown on **Figures 2** and **3.1** through **3.11** (**Attachment 1**) during the 2009 breeding season. A copy of the survey protocol is included in **Attachment 2**. The surveys were conducted between April 1, 2009, and May 15, 2009, by biologists from B&A (Nick Wallisch and Mark Kainer).

Traffic and general urban noise was a persistent challenge, surveyors compensated where possible by concentrating listening periods between traffic flows and concentrating ocular observations during the traffic flows. In addition, a request was made of all private property owners with potential GCWA habitat within the study area to allow access on to private property to conduct the surveys. A total of 22 property owners representing part of nine of the 13 habitat blocks granted access to their properties either prior to or during the

[1] Barnes, Virgil. 1974. Geologic Atlas of Texas. San Antonio Sheet. University of Texas at Austin. Bureau of Economic Geology.

survey. These tracts were accessed to conduct the surveys and were valuable because traffic noises were greatly reduced with distance from US 281and surveys were greatly enhanced. Areas where no right of entry was granted were surveyed from the rights-of-way of US 281 and intersecting roadways.

Notes on all avian species heard or observed were recorded, as were data on the range of air temperatures, wind direction and speed, cloud cover, and precipitation during the duration of the surveys.

A taped call of the GCWA was discreetly played in various locations within and/or adjacent to each habitat block on the sixth field visit to verify negative findings during the previous of five surveys.

GCWA Presence-Absence Survey Results

No GCWAs were heard or observed during the presence-absence survey. Eighty-two other avian species, representing 32 familes, were detected during the survey. The most common species included the northern cardinal (*Cardinalis cardinalis*), Bewick's wren (*Thryomanes bewickii*), Carolina wren (*Thryothorus ludovicianus*), black-crested titmouse (*Baelophus atricristatus*), Carolina chickadee (*Poecile carolinensis*), northern mockingbird (*Mimus polyglottos*), western scrub-jay (*Aphelocoma californica*), white-winged dove (*Zenaida asiatica*), mourning dove (*Zenaida macroura*) and turkey vulture (*Cathartes aura*). A list of the avian species documented in the study area during the 2009 survey is provided in **Attachment 5**. Copies of the GCWA presence/absence field data forms, which include data on the weather conditions during the surveys, are included in **Attachment 6**.

Discussion

No habitat for the GCWA or BCVI was identified in the existing US 281 ROW, but 13 blocks of potential GCWA habitat were identified in proposed ROW and/or a study area surrounding the existing and proposed ROW. No BCVI habitat was identified in the project area. A presence-absence survey for the GCWA was conducted in accordance with USFWS protocol on each of the 13 GCWA habitat blocks during the spring of 2009. No GCWAs were observed or heard during the survey. Based on these negative results, and accessing many of the private properties within the study area and further evaluating the size, quality, recent land uses, and connectivity of each block to larger expanses of potential habitat, it was recommended that three of the 13 blocks be dismissed from further consideration. These include blocks 4, 10, and 11. Blocks 4 and 10 are recommended to be dismissed from further consideration after accessing the properties and/or re-evaluating the quality of the habitat based on surrounding residential development in the case of Block 4 and commercial development surrounding Block 10. Block 11 is recommended to be dismissed from further consideration because all of the Ashe juniper trees have been removed within and adjacent to the study area. It is also recommended the remaining 10 habitat blocks be surveyed for the presence or absence of the GCWA for a second year, preferably during the 2010 breeding season.

On behalf of the ARMA, this correspondence requests USFWS's concurrence on the methodology and results of the habitat assessment and first-year results documented in this letter report.

Please contact myself or Kim Johnson at 512 264-1095 if you have any questions or comments.

Sincerely,

Mark Kainer

Mark Kainer
Blanton & Associates, Inc.

Attachment 1

Figures

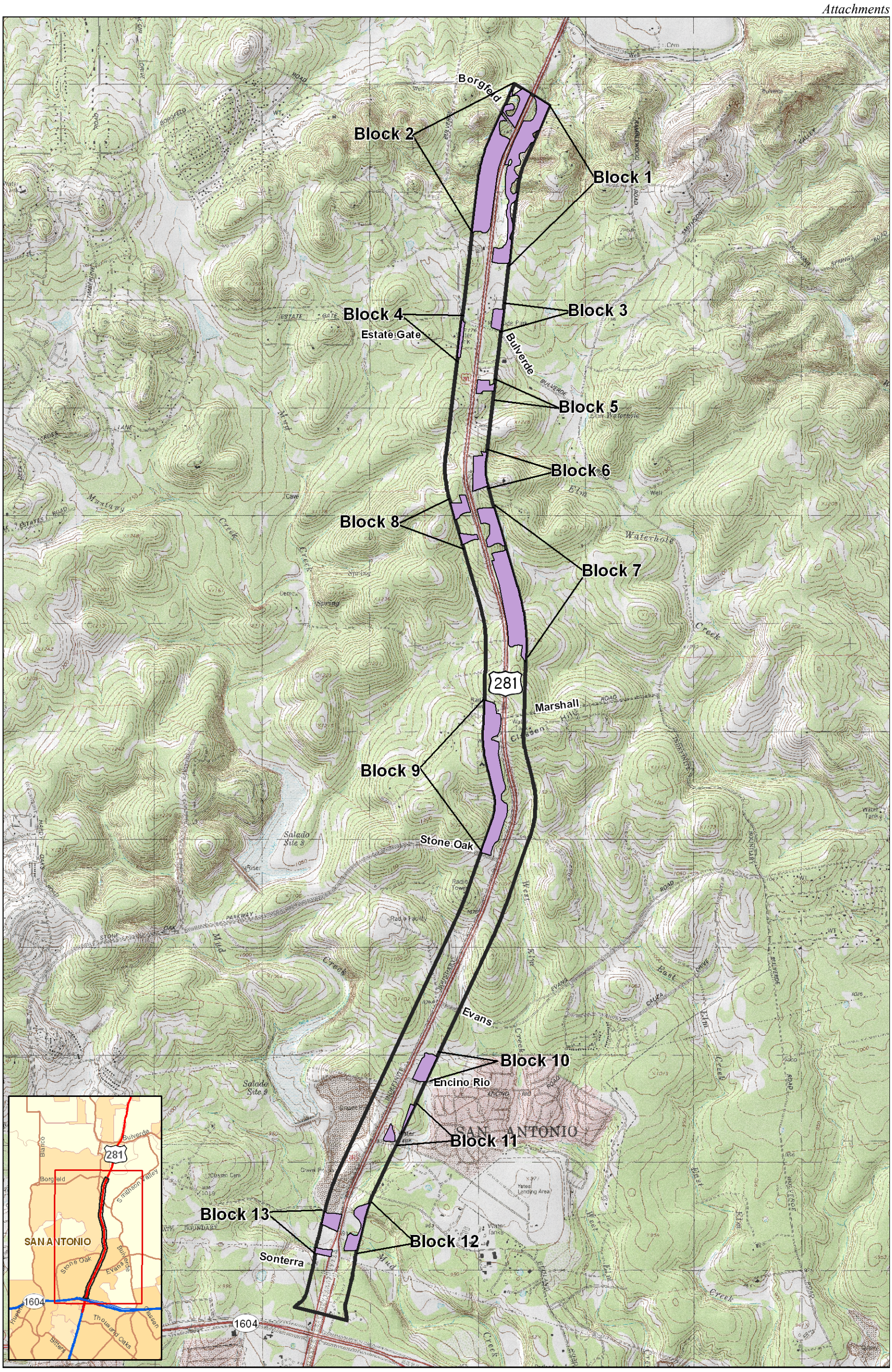


Figure 2
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
on Topographic Base

Base Map: USGS 7.5 Minute Quadrangle Bulverde, Texas (1992)

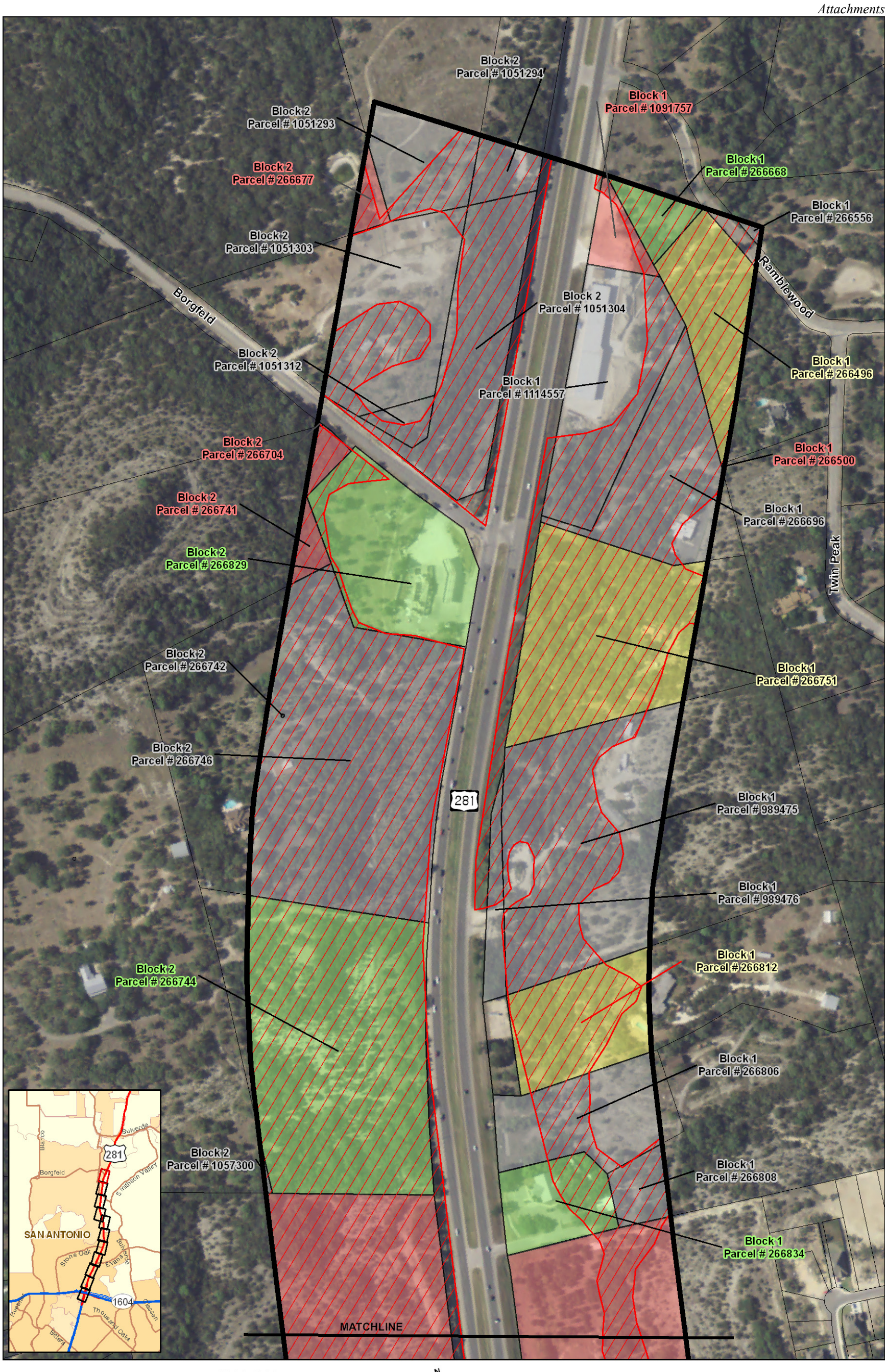
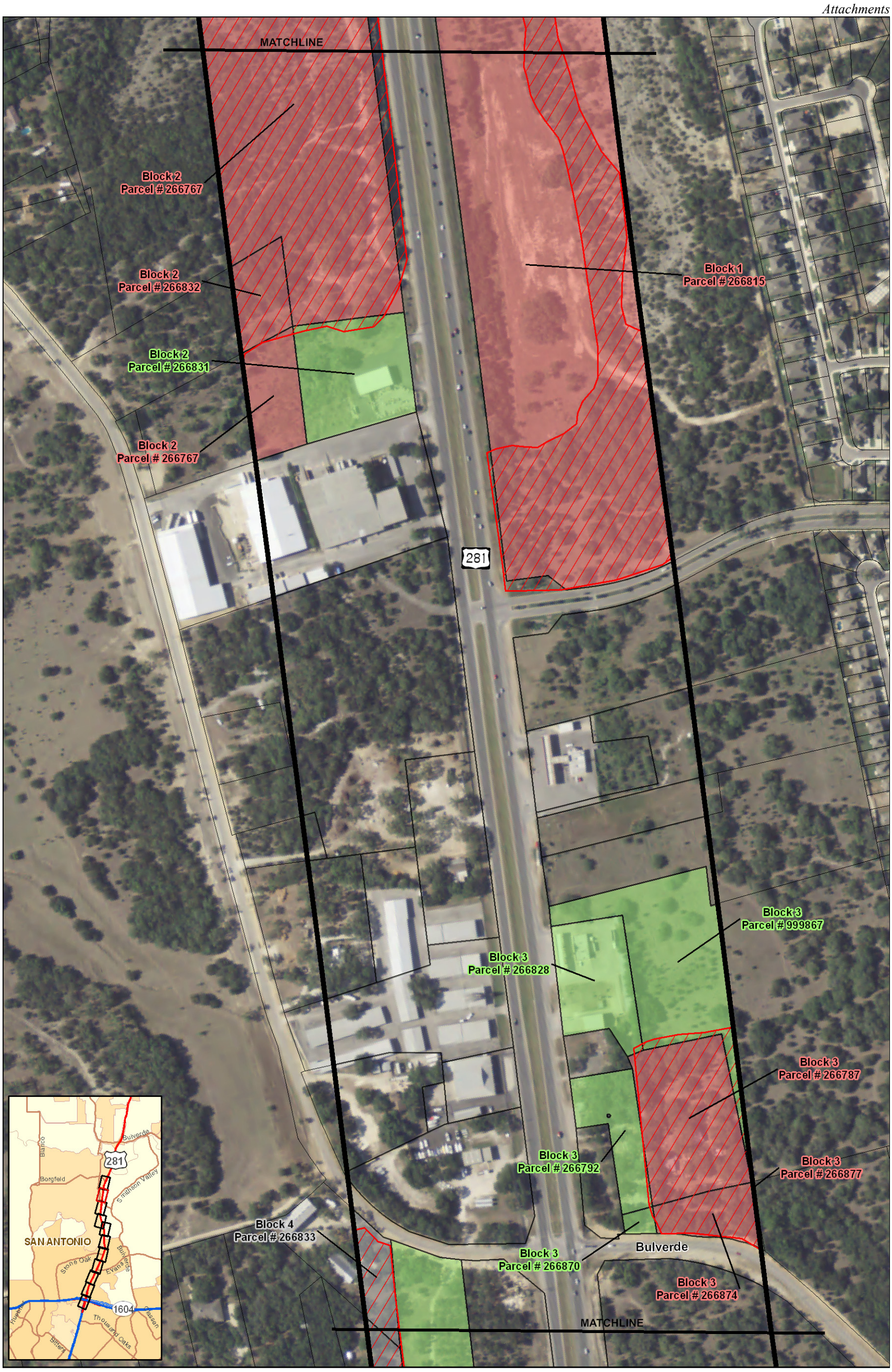


Figure 3.1
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography



Parcel
Study Area
(500 ft. Buffer from Existing ROW)
Golden-cheeked Warbler Habitat

Right of Entry
ROE Granted
Conditional ROE Granted
No ROE Granted
No Response

N
W
E
S

1:3,600

Feet
0 150 300 600

Figure 3.2
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

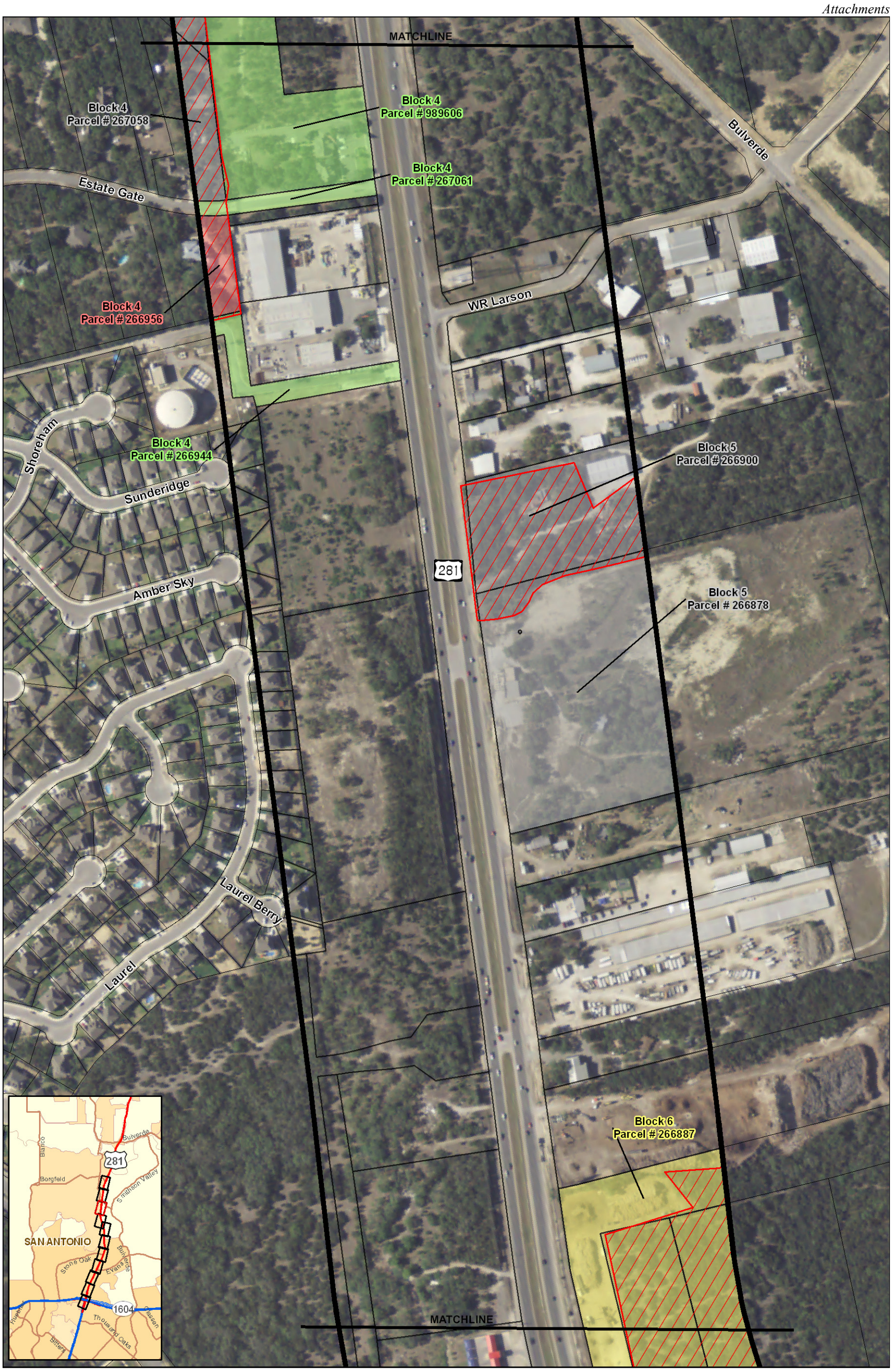


Figure 3.3
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

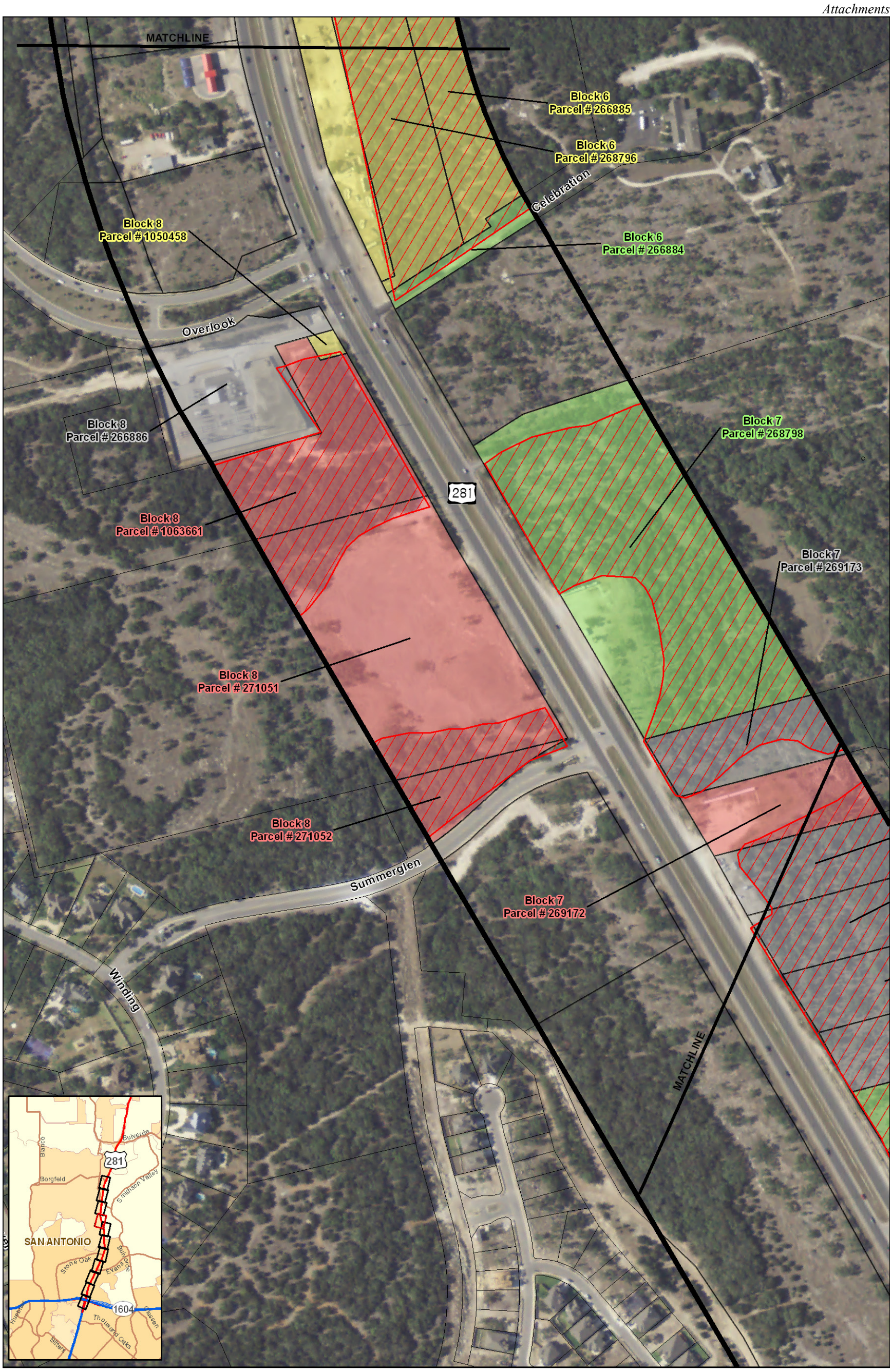


Figure 3.4
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

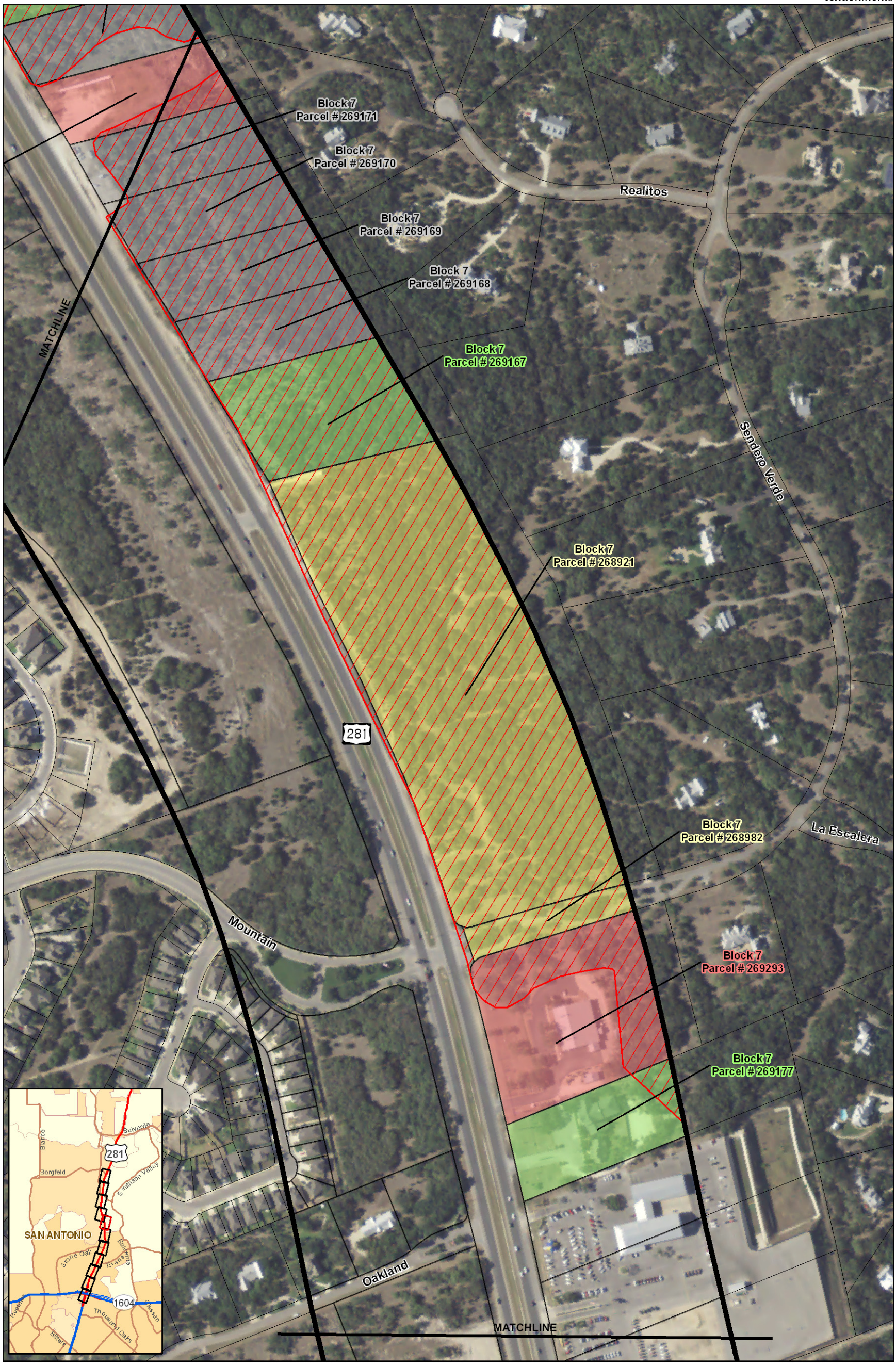


Figure 3.5
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

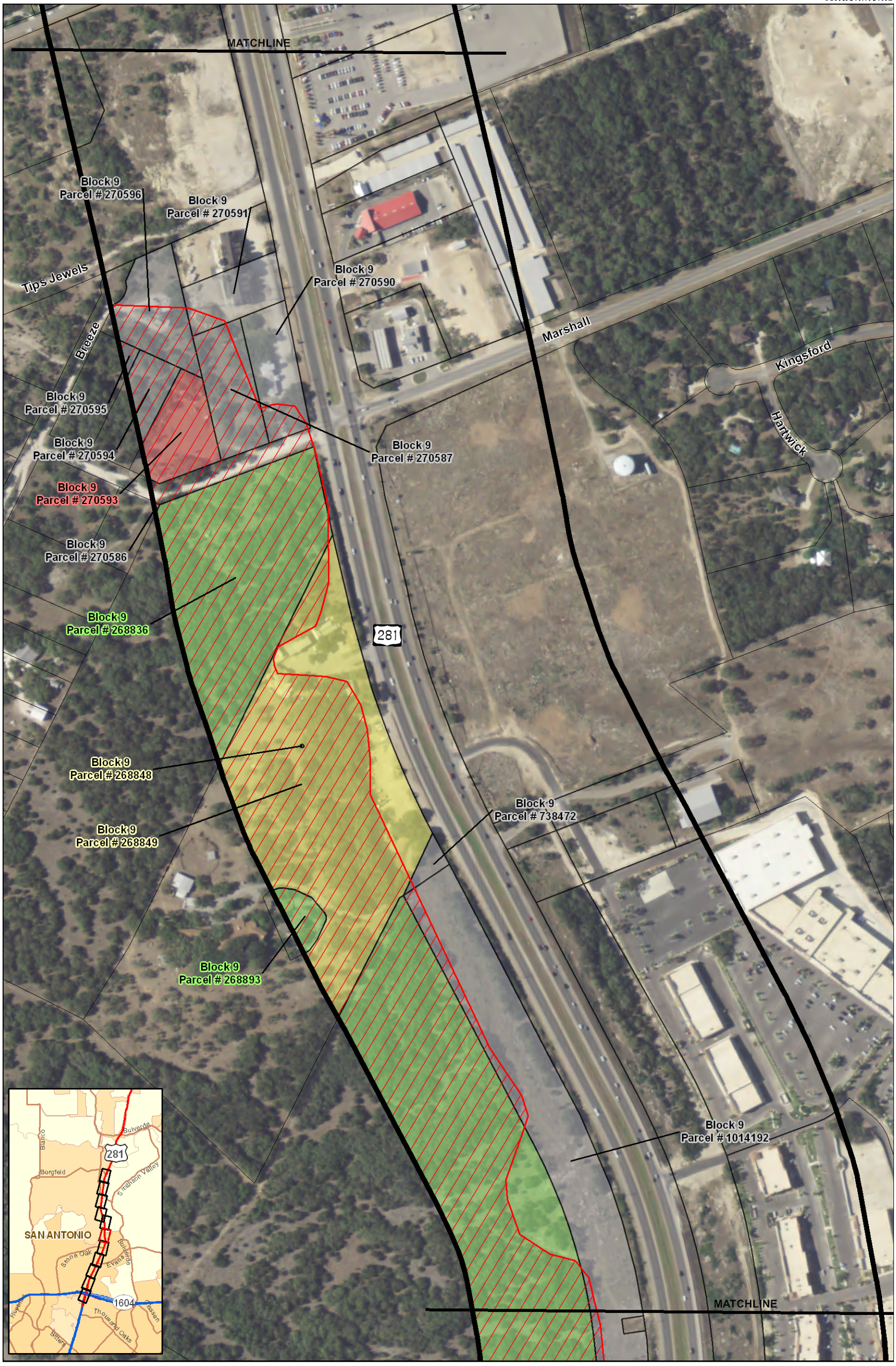


Figure 3.6
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

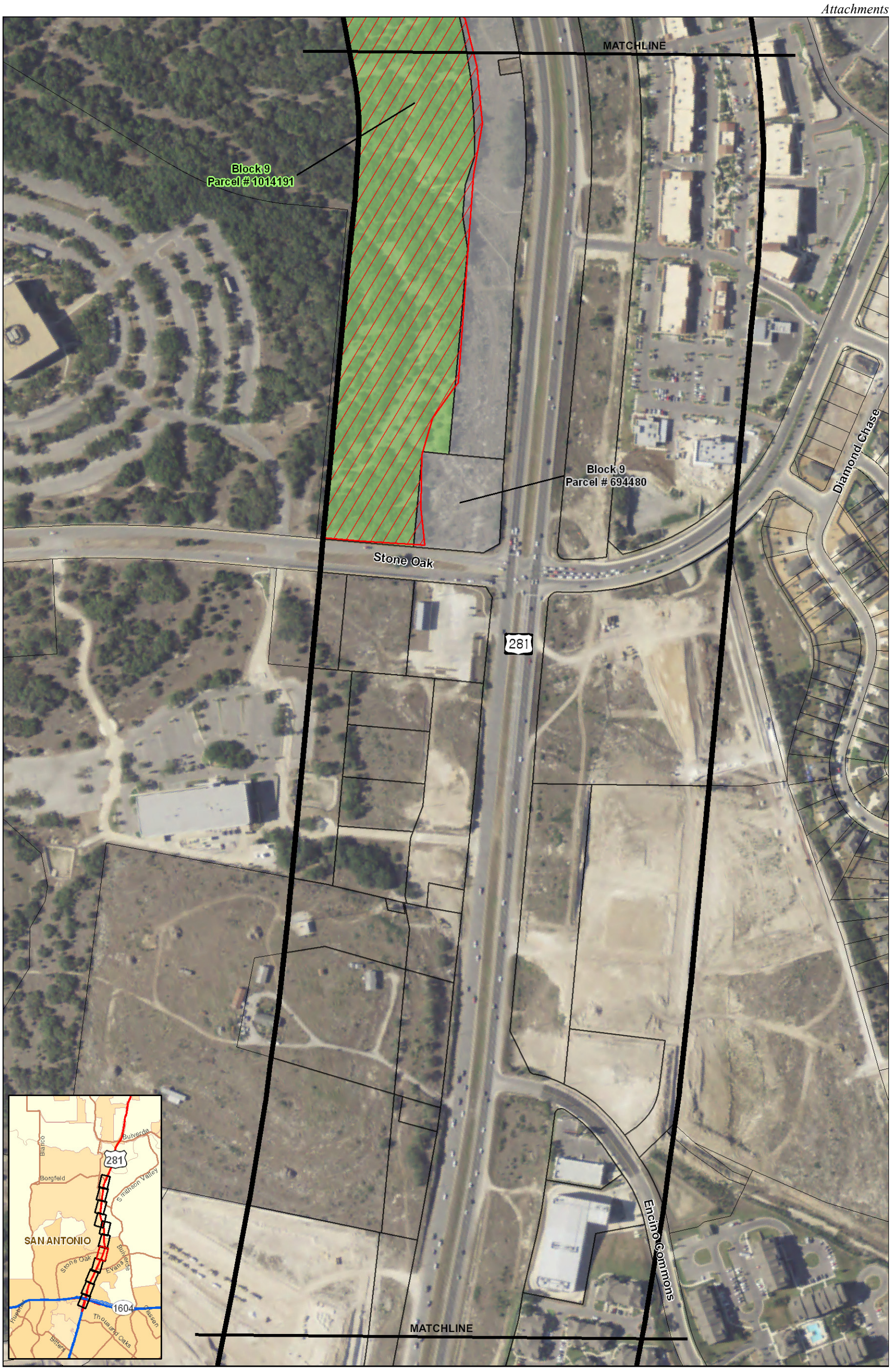


Figure 3.7
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

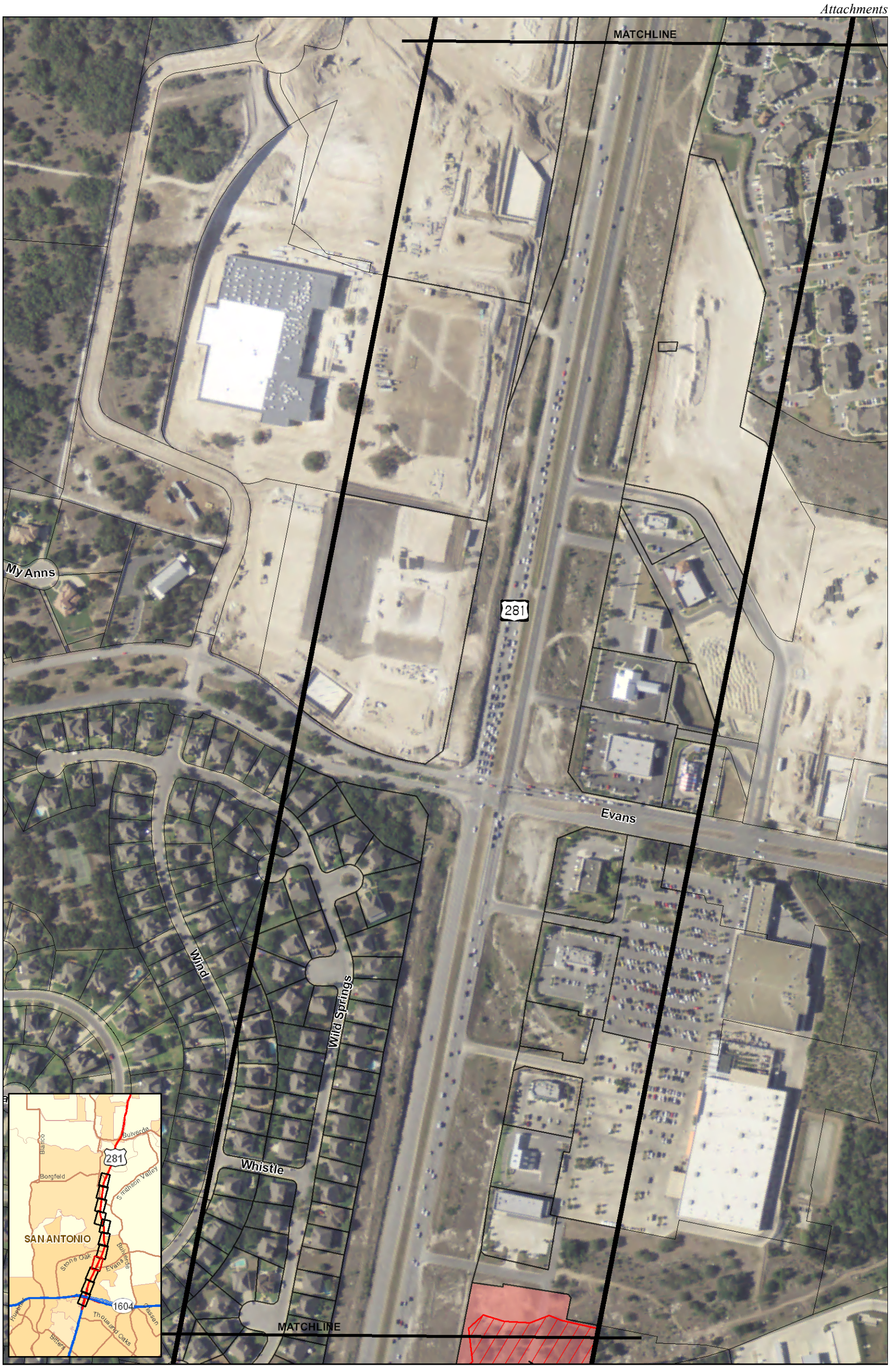


Figure 3.8
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

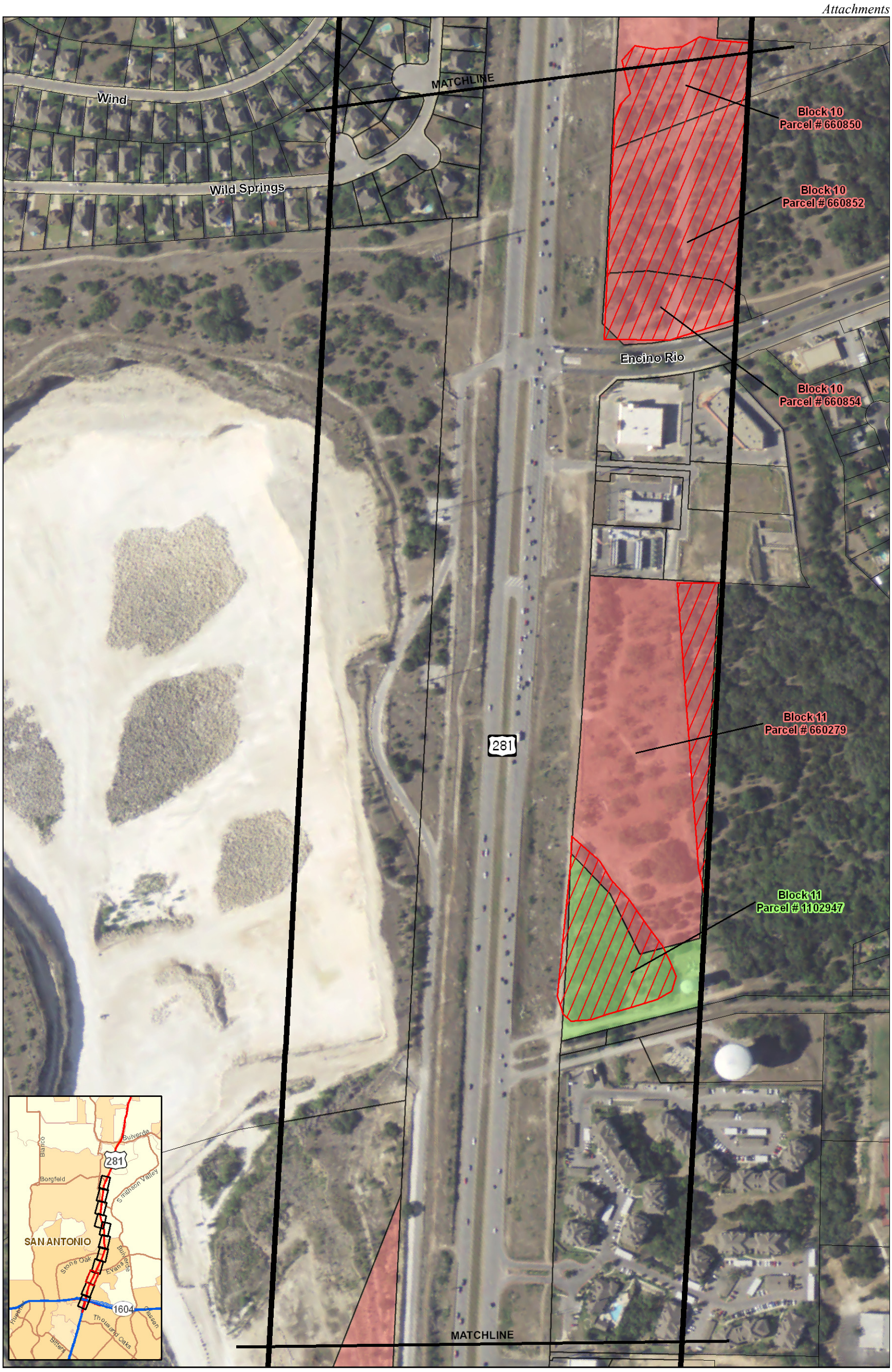


Figure 3.9
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

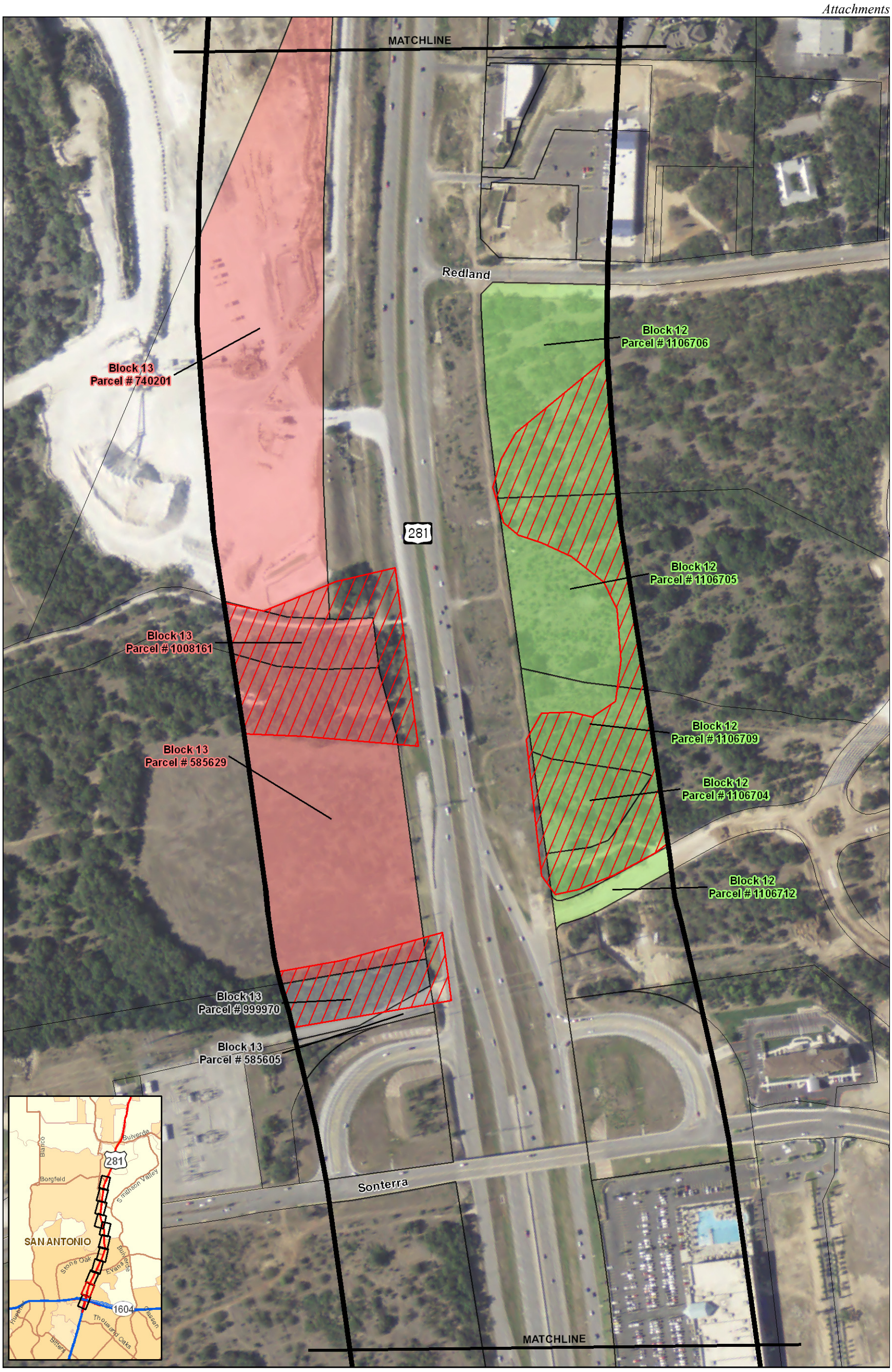


Figure 3.10
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography

Figure 3.11
US 281 From Loop 1604 to Borgfeld Road
Potential GCWA Habitat Blocks
and Right of Entry Status

Base Map: 2008 NAIP Aerial Photography